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Arthur Allan Bayot

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TEXAS INSTRUMENTS INCORPORATED

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EXAMINER

COLEMAN, WILLIAM D

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARTHUR ALLAN BAYOT

Appeal 2009-003810
Application 09/963,493
Technology Center 2800

Decided: August 5, 2009

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and CARL W.
WHITEHEAD JR., *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final rejection of claims 1 through 5 and 12 through 16.

We affirm the Examiner's rejection of these claims.

INVENTION

The invention is directed towards a method for manufacturing a ball grid array package. See page 2 of Appellant's Specification. Claim 1 is representative of the invention and reproduced below:

1. A method of manufacturing a ball grid array semiconductor package comprising the steps of:
 - providing a substrate, wherein said substrate comprises a first surface and a second surface and said first surface or said second surface comprises a conductor pattern;
 - providing a plurality of conductive bump contact areas on said first surface of said substrate;
 - substantially aligning each of said conductive bump contact areas with at least one conductive bump, wherein the step of substantially aligning said conductive bump contact areas with at least one of said conductive bumps comprises the step of vibrating at least a portion of said substrate, wherein said vibration of at least a portion of said substrate substantially aligns each of said conductive bump contact areas with at least one of said conductive bumps; and
 - disposing at least one of said conductor bumps on each of said conductive bump contact areas.

REFERENCES

Kuroda	US 5,205,032	Apr. 27, 1993
Chapman	US 6,059,172	May 9, 2000

REJECTION AT ISSUE

Claims 1 and 12 are rejected by the Examiner under 35 U.S.C. § 102(b) as being anticipated by Chapman. The Examiner's rejection is on pages 4 and 5 of the Answer.¹

Claims 2, 3, 4, 5, 13, 14, 15, and 16 are rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Chapman in view of Kuroda. The Examiner's rejection is on pages 6 and 7 of the Answer.

ISSUE

Appellant argues, on page 5 of the Brief² that the rejections of claims 1 through 5 and 12 through 16 are in error. Appellant argues:

Chapman discloses a [sic, in] column 2, line 16 [sic, 26] different methods including vibration brushing and vacuum.

The present invention discloses vibration in a specific context namely alignment and this context is not mentioned from the above reference.

Brief 5.

Thus, Appellant's contention presents us with the issue: has Appellant shown that the Examiner erred in finding that Chapman teaches a step of aligning conductive bump contact areas with conductive bumps by vibrating a substrate as recited in claims 1 and 12?

¹ Throughout the opinion, we make reference to the Answer, mailed February 14, 2006 for the respective details thereof.

² Throughout the opinion, we make reference to the Brief dated May 24, 2004 for the respective details thereof

PRINCIPLES OF LAW

In analyzing the scope of the claim, Office personnel must rely on Appellant's disclosure to properly determine the meaning of the terms used in the claims. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995). "[I]nterpreting what is *meant* by a word *in* a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper." *In re Cruciferous Sprout Litigation*, 301 F.3d 1343, 1348 (Fed. Cir. 2002) (emphasis in original; citations and quotations omitted).

FINDINGS OF FACT

1. Chapman teaches that it was known to use solder balls to mount two electronic structures together. Col. 1, ll. 58-60.
2. Chapman teaches that solder balls are difficult to align and that several methods are used to align them including using vibration. Col. 2, ll. 25-29.

ANALYSIS

We are not persuaded that the Examiner erred in finding that Chapman teaches a step of aligning conductive bump contact areas with conductive bumps by vibrating a substrate as recited in claims 1 and 12. Claim 1 recites a step of "substantially aligning said conductive bump contact areas with at least one of said conductive bumps comprises the step of vibrating wherein said vibration of at least a portion of the substrate substantially aligns each of said conductive bump contact areas with at least one of said conductive bumps." Independent claim 12 includes a similar

limitation. Thus, the scope of claims 1 and 12 includes that a substrate is vibrated to align the conductive bumps with conductive bump contact areas.

The Examiner has found that Chapman teaches vibrating the substrate with solder balls (conductive bumps) to align the bumps with contact areas on another component. Answer 5. We find ample evidence to support this assertion. Facts 1 and 2. Appellant's arguments admit that Chapman uses vibration. Brief 5. We are not persuaded by Appellant's argument that the claims differ from Chapman in that they are directed to using vibration for alignment. While we concur that the claims recite that the vibration is used for alignment, we also find that Chapman discloses that alignment is a problem and vibration is used to solve the problem. Fact 2. Accordingly, Appellant's arguments have not persuaded us of error in the Examiner's rejection of claims 1 and 12 under 35 U.S.C. § 102(b) as being anticipated by Chapman.

Appellant further argues that Kuroda does not cure the deficiency noted in Chapman. Kuroda was not applied in the rejection of claims 1 and 12. As Kuroda is only applied in the rejection of claims 2 through 5 and 13 through 16, and Appellant's have not persuaded us of a deficiency in the Examiner's findings regarding Chapman, we also sustain the Examiner's rejection under 35 U.S.C. § 103(a) of claims 2, 3, 4, 5, 13, 14, 15, and 16 as being unpatentable over Chapman in view of Kuroda.

SUMMARY

In summary, we sustain the Examiner's rejections of claims 1 through 5 and 12 through 16.

Appeal 2009-003810
Application 09/963,493

ORDER

The decision of the Examiner to reject claims 1 through 5 and 12 through 16 is affirmed.

No period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

ELD

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